

Message

From: Wozniak, Chris [wozniak.chris@epa.gov]
Sent: 1/2/2020 7:58:11 PM
To: Bohnenblust, Eric [Bohnenblust.Eric@epa.gov]
Subject: RE: Tet-tTAV binding complex

Would it be fair to say that those emerging from septic tanks are full of shit? Just wondering 😊

Thanks,
Chris

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From: Bohnenblust, Eric <Bohnenblust.Eric@epa.gov>
Sent: Thursday, January 02, 2020 2:26 PM
To: Wozniak, Chris <wozniak.chris@epa.gov>; Kirk, Cassandra <kirk.cassandra@epa.gov>; Striegel, Wiebke <Striegel.Wiebke@epa.gov>; Pierce, Amanda <pierce.amanda@epa.gov>; Kough, John <Kough.John@epa.gov>; Milewski, Elizabeth <Milewski.Elizabeth@epa.gov>
Subject: RE: Tet-tTAV binding complex

<https://bioone.org/journals/journal-of-the-american-mosquito-control-association/volume-25/issue-4/09-5888.1/Dynamics-of-span-classgenus-speciesAedes-aegypti-span-and-span-classgenus/10.2987/09-5888.1.short>

<https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1365-2915.2008.00720.x>

couldn't get full access quickly, but it certainly appears they can and have used septic tanks as breeding sites especially in the tropical islands of the Caribbean.

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Biopesticides and Pollution Prevention Division (BPPD)
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From: Wozniak, Chris <wozniak.chris@epa.gov>
Sent: Thursday, January 2, 2020 2:07 PM
To: Kirk, Cassandra <kirk.cassandra@epa.gov>; Striegel, Wiebke <Striegel.Wiebke@epa.gov>; Pierce, Amanda <pierce.amanda@epa.gov>; Bohnenblust, Eric <Bohnenblust.Eric@epa.gov>; Kough, John <Kough.John@epa.gov>; Milewski, Elizabeth <Milewski.Elizabeth@epa.gov>
Subject: RE: Tet-tTAV binding complex

One more thing to consider, the mantra has been the *Aedes aegypti* requires relatively clean water for oviposition and larval rearing. Do we know if female *aegypti* would use a septic tank to lay their eggs?

Chris

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From: Kirk, Cassandra <kirk.cassandra@epa.gov>
Sent: Thursday, January 02, 2020 1:38 PM
To: Wozniak, Chris <wozniak.chris@epa.gov>; Striegel, Wiebke <Striegel.Wiebke@epa.gov>; Pierce, Amanda <pierce.amanda@epa.gov>; Bohnenblust, Eric <Bohnenblust.Eric@epa.gov>; Kough, John <Kough.John@epa.gov>; Milewski, Elizabeth <Milewski.Elizabeth@epa.gov>
Subject: RE: Tet-tTAV binding complex

Thanks Chris,

Ex. 5 Deliberative Process (DP)

Thanks!
Cassie

From: Wozniak, Chris <wozniak.chris@epa.gov>
Sent: Tuesday, December 31, 2019 1:20 PM
To: Kirk, Cassandra <kirk.cassandra@epa.gov>; Striegel, Wiebke <Striegel.Wiebke@epa.gov>; Pierce, Amanda <pierce.amanda@epa.gov>; Bohnenblust, Eric <Bohnenblust.Eric@epa.gov>; Kough, John <Kough.John@epa.gov>
Subject: RE: Tet-tTAV binding complex

Hi Cassie,

Ex. 5 Deliberative Process (DP)

Chris

Arch Environ Contam Toxicol. 2002 Apr;42(3):263-71.

Toxicity of tetracyclines and tetracycline degradation products to environmentally relevant bacteria, including selected tetracycline-resistant bacteria.

Halling-Sørensen B¹, Sengeløv G, Tjørnelund J.

Author information

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Abstract

Tetracyclines used in veterinary therapy invariably will find their way as parent compound and degradation products to the agricultural field. Major degradation products formed due to the limited stability of parent tetracyclines (tetracycline, chlortetracycline, and oxytetracycline) in aqueous solution were theoretically identified at various environmental conditions, such as pH, presence of chelating metals, and light. Their potency was assessed on sludge bacteria, tetracycline-sensitive soil bacteria, and tetracycline-resistant strains. Several of the degradation products had potency at the same concentration level as tetracycline, chlortetracycline, and oxytetracycline on both the sludge and the tetracycline-sensitive soil bacteria. Further, both 5a,6-anhydrotetracycline and 5a,6-anhydrochlortetracycline had potency on tetracycline-resistant bacteria supporting a mode of action different from that of the parent compounds.

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From: Kirk, Cassandra <kirk.cassandra@epa.gov>

Sent: Monday, December 30, 2019 5:34 PM

To: Striegel, Wiebke <Striegel.Wiebke@epa.gov>; Pierce, Amanda <pierce.amanda@epa.gov>; Bohnenblust, Eric <Bohnenblust.Eric@epa.gov>; Wozniak, Chris <wozniak.chris@epa.gov>; Kough, John <Kough.John@epa.gov>

Subject: Tet-tTAV binding complex

Hello there,

In reviewing the study "Dose Response of Hemizygous *Aedes aegypti* OX5034 to Tetracyclines And Effects of Environmental Exposure to Tetracycline", it occurred to me that while they tested analogues, there is no mention of whether or not the binding of tet degradates was ever assessed. I can't find any information regarding the biochemical details of the tet-tTAV binding complex to know whether looking at the binding of any tet residues has relevance. Does anyone have any insight regarding this issue? If the degradates do bind, it has relevance because they are more stable in water as compared to tetracycline.

Thanks!

Cassie